

Rising adoption of cloud and containers at scale demands new monitoring, observability, and analytics strategies to address resiliency, cost, and performance.

Hybrid and Multicloud Transform IT Monitoring Strategies

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Questions posed by: Splunk

Answers by: Mary Johnston Turner, Research Vice President, Cloud Management

Q. Many organizations are finding themselves challenged to balance demands for digital transformation, stronger cost controls, and improved infrastructure resiliency. What does IDC's research say about the current state of the use of cloud, containers, and next-generation application architectures that are driving these changes?

A. IDC's discussions with organizations around the world show an ongoing commitment to connected hybrid and multicloud infrastructure strategies that combine on-premises reliance with hosted private clouds and one or more public cloud services. Although each organization makes its own choices about the mix of clouds that makes sense for its business, IDC's research shows that overall, 97% of enterprises currently rely on hybrid and/or multicloud strategies.

At the same time, many organizations are adding containers and Kubernetes to the mix to support microservice-based innovation and to enable greater portability of workloads across clouds. In some cases, these are net-new cloud-native applications developed to take full advantage of stateless environments. In other cases, the existing stateful applications may be lightly refactored or simply lifted and shifted to containers to enable rapid migration to cloud infrastructure platforms and services.

Either way, IT complexity is rising and many organizations are struggling with operational and organizational challenges as they discover that traditional monitoring tools and service management workflows cannot keep up with the pace and scale of change brought about by these new architectures. Our surveys show that when it comes to managing cloud and containers, organizations consistently identify the need for better, more comprehensive cross-cloud performance monitoring, observability, and AI/ML-powered analytics to help maintain SLAs, manage costs, and optimize use of automation.

Q. Can you explain more specifically how the requirements for monitoring and analytics are evolving?

A. Organizations tell IDC they need more real-time perspective on infrastructure and application dependencies, health, performance, and costs. IDC's research shows that the typical enterprise application has between 5 and 15 dependencies on enabling infrastructure and services. As organizations increasingly deploy microservice-based applications across connected clouds — and integrate them with legacy databases and applications — the operational complexity rises. Automated systems, whether Kubernetes-based infrastructure scaling or CI/CD-powered application updates, increase the risk that a single change might have unintended impacts.

Maintaining infrastructure and application health and performance requires real-time observability across a diverse set of data types and sources, including on-premises and public cloud logs, metrics, and traces. Traditional monitoring and reporting tools are frequently built for just one type of data collection and reporting, requiring operations teams to rely on visual correlations and ad hoc analysis to determine true root cause issues and remediations. As clouds become more dynamic and interconnected, the operational challenges become more complex and the potential business risk increases.

IDC's research shows that enterprises need to implement more proactive monitoring and analytics strategies that allow them to filter out the noise and quickly focus on mission-critical insights. They need to move beyond traditional monitoring to modern monitoring and observability, which provide consistent visibility and insights across interrelated traces, metrics, logs, and related data across on-premises, hybrid, or multicloud platforms. As part of this transformation, organizations need the tools to stream, normalize, filter, and correlate data from across these different resources and automatically identify actionable thresholds and anomalies.

Over 70% of organizations tell us they believe it is very important to have robust cross-cloud visibility and control to ensure operational resiliency. Tools that can improve performance monitoring, analytics, and cost management are most frequently cited as requirements for effective operations in the era of connected clouds and containers. Tools that provide action-oriented insights and automation in real time using AI/ML capabilities are particularly high priorities.

Q. How can modern monitoring and observability help organizations implement and operate strategic digital initiatives such as application modernization or the adoption of hybrid and multicloud architectures?

A. Traditionally, IT operations teams have monitoring, which tends to aggregate large amounts of data and provide tools and dashboards to search, graph, and visually engage with the data related to infrastructure availability, downtime, or mean time to repair. Oftentimes, however, monitoring and reporting tools stop short of providing immediate, actionable insights.

Digital business cannot tolerate downtime. As a result, the monitoring tools market is rapidly evolving to encompass real-time observability across time series metrics, application traces, and end-user experience insight as well as granular logs. These modern monitoring and observability solutions are designed for cloud-native architectures and are often delivered as SaaS-based services that can scale rapidly, integrate streaming data from many sources and formats, and

quickly provide actionable insight to trigger automated responses. This new generation of tools is designed to help provide business context and relevance by evaluating performance, cost, and user experience data in the content of critical business KPIs.

IDC's recent research shows that overall, 64% of enterprise cloud operations organizations have identified the improvement of performance and reliability of applications running in clouds as a major priority. Increasing use of public cloud and container-based architectures is helping organizations build out more resilient and scalable application and infrastructure environments while generating orders of magnitude increases in the volume and variability of performance, cost, and configuration data that needs to be evaluated. Getting ahead of this data avalanche by implementing tools and processes that can proactively process and take action will be critical to effective digital business operations going forward.

Q. How does the pivot to cloud native and observability impact the processes, skills, and tools needed by IT operations teams?

A. Many organizations have addressed the needs of cloud-native applications teams by building out dedicated site reliability engineering (SRE) or DevOps teams tasked with architecting and managing modern hybrid cloud and cloud-native infrastructure. IT operations teams have been able to manage a limited number of workloads being deployed to production using CI/CD automation and running cloud or container infrastructure, but this approach created an environment where more traditional applications and infrastructure were managed separately as silos cut off from the cloud-native world.

As more and more workloads are modernized, lifted and shifted, refactored, or migrated from one cloud to another, it has become difficult to coordinate operations and ensure consistent end-to-end data and application integrations and end-user SLAs. In many organizations, as much as 30% of workloads are expected to run in containers in just a few years — most deployed across connected multicloud and hybrid infrastructure. Organizations understand that heavily siloed organizations will not be able to adapt and adjust to changing demands fast enough in the future.

As a result, many organizations are beginning to develop more consistent and unified monitoring, observability, and automation capabilities that can be applied consistently across diverse infrastructure clouds and application resources. The success of these efforts will depend on having a comprehensive data aggregation and analytics platform. Performance monitoring and analytics is consistently identified as the number 1 cross-cloud functionality required by IT teams that want to focus on improving cloud and container management and end-user experiences.

About the Analyst



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Mary Johnston Turner is Research Vice President for Cloud Management, part of IDC's Infrastructure and Operations Management software research team. Her research focuses on emerging software and solutions for cloud, container and DevOps IT operations, cost optimization, automation, performance, and analytics. She contributes to vendor analysis, enterprise IT buyer advisory, and custom consulting activities.

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Splunk's infrastructure investigation and monitoring solution eliminates fragmented operational data trapped in siloed tools and enables IT teams to deliver on ever-increasing customer expectations by avoiding even seconds of downtime. To learn more about how Splunk can accelerate your hybrid and multicloud journey please visit <https://www.splunk.com/>.

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